

METHODS AND APPARATUS FOR INTRODUCING
LIQUIDS INTO MICROFLUIDIC CHAMBERS

ABSTRACT

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The present invention is directed to methods and apparatus for removing a gaseous bubble confined in a microvolume of liquid in a chamber. A source of liquid, a barrier region and an exit region are provided in fluid communication with the chamber. The source of liquid has an energy potential as regards movement of the gaseous bubble that is
10 higher than the energy potential of the barrier region, the barrier region has a higher energy potential than the chamber, and the chamber has a higher energy potential than the exit region. The energy potential is reduced within the chamber, the source of liquid, the barrier region, and the exit region by an amount such that the energy within the gaseous bubble is sufficient to displace the gaseous bubble from the chamber through the barrier
15 region and out the exit region and to fill the chamber with the liquid from the source.